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WINTER NOTES FROM NEW MEXICO.

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IN December, 1882, I had the good fortune to pass three weeks at Las Vegas Hot Springs, New Mexico, and though at that season the species of birds met with were few in number, yet as most of them were quite abundant, I think some account of my observations may not be without interest. The following notes refer to the time between December 4 and 23.

The Hot Springs are in the northern part of New Mexico, in San Miguel County, six miles northwest of Las Vegas, and are situated in the cañon of the Gallinas River, just above where that stream emerges from the foot-hills of the mountains of the Spanish Range—the extreme southeastern range of the Rockies—into the elevated plains that are characteristic of a great part of the Territory. The town of Las Vegas, which is out on the plains, has an altitude above the sea of 6452 feet, while that of the Hot Springs is 6768 feet, the surrounding hills reaching several hundred feet higher. The climate is delightful at this time of year. The dry air and cloudless sky allow the warm rays of the sun to have their full effect, and heavy clothing is quite unnecessary, often unbearable. One can sit still on a warm sunny hillside with the birds singing around him, and look across at the shady side of the canon opposite, yet white with snow that fell several weeks before, while on still, shaded pools on the stream below a supply

of ice is being harvested for the use of the hotels at the Hot Springs. The nights are quite cool, so that a thick skim of ice is formed nearly every night on water that is not in motion, but it disappears like magic before the morning sun. During the latter part of December there were several slight snowstorms, but the hot sun and dry air soon left no traces of them save in shaded spots out of reach of the sunshine. In the middle of the winter there is doubtless some severe cold, as would naturally be expected at such an altitude.

Just below the Hot Springs the cañon of the Gallinas gradually broadens out, and the hills become lower and farther apart before they finally sink into the plains and the cañon comes to an end. The stream itself first runs between low bluffs where it has cut its way through a small plateau of superficial gravel deposits, and then spreads itself out over a shallow, stony bed where the valley widens out as it approaches the broad plains that stretch indefinitely to the south and east, broken only here and there by some outlying low hill whose flat-topped ridge and steep, deeply eroded sides give it the appearance at a distance of a huge fortification.

In the lower part of its course the flow of the river is impeded in various places by rude dams made out of brush by the Mexican inhabitants of several little adobe villages. Small ponds are thus formed from which run ditches carrying the water to irrigate their outlying fields.

Above the springs the cañon narrows, and winds along for many miles shut in by steep, rounded hills, on whose barren sides only a scanty vegetation obtains a foothold among the gravel and loose stones and occasional ledges that form their surface. These hills are here and there varied by perpendicular cliffs that tower above the stream, while every now and then one comes upon a narrow ravine or side-cañon that winds its way back between the hills, gradually rising and becoming narrower and with steeper sides as it gets farther from the main cañon until it ends high up among the hills. These ravines are usually dry, though in some a feeble little stream struggles to exist.

The cañon itself varies greatly in its width. In some places the hills crowd down upon it until there is hardly room for a footpath between the brawling stream and the steep rocky sides. Again the hills retreat, and the cañon opens out into a little

valley whose level bottom here and there shows signs of cultivation, forcibly reminding one of the scarcity of land available for such uses. These openings are of small extent, seldom covering more than a few acres.

Through these level stretches the stream ripples along gently over its stony bed. Here it is about twenty feet wide, and is shallow, hardly more than a foot in depth, but in the narrower places it becomes more of a mountain torrent, and leaps noisily over the rocks, with clear, deep pools, and here and there a waterfall.

The bottom of the cañon, in places where it broadens out, bears patches of tall weeds and clumps of low scrub oaks, but there are few trees worthy of the name, except on the hills, which are wooded with a scattering growth of various species of Coniferæ, of which *Pinus ponderosa*, *P. edulis*, *Juniperus occidentalis*, and *Abies douglasi* are the commonest, named in the order of their abundance. *Pinus ponderosa* far outnumbers the others, and is most important, furnishing the chief supply of timber and firewood. On the more open parts of the hills there are low scrubby oaks growing mostly in thick clumps.

Passing the various hot springs that come boiling to the surface at numerous points along the stream, a short walk up the cañon brings you to one of the openings where the retreating hills leave a level stretch of a few acres. Among the thick clumps of low scrub oaks that are scattered over it, or in the large patches of tall dead weeds, I was sure to find companies of Juncos (*Junco oregonus* and *J. caniceps*) busily searching the ground for fallen seeds. Of all the species that I met with, the Juncos were decidedly the most abundant. They were to be seen everywhere; it was hard to find a spot they did not like; but these were their favorite haunts. Among the pines on the hills, or in the thickets of willows down the river, they were in small parties, but here they were in large flocks. They moved about a good deal, straggling along one or two at a time, though occasionally a number would fly in a tolerably compact flock. They were shyer and more restless than *J. hyemalis*, and quicker in their motions. They were noisier, too, and their notes seemed louder, but less harsh. I noticed no difference between the habits of the two species. They were always together in the same flocks, and seemed on the best of terms.

On my arrival (December 4) *J. caniceps* was much the more numerous, there being three or four of them to one *J. oregonus*, but as the time went on its numbers diminished, while those of *J. oregonus* increased, until by the middle of the month far the greater part were of the latter species. I think they were all slowly migrating, and that *J. caniceps* went first. As its ranks were gradually thinned out, fresh arrivals of *J. oregonus* filled the vacant places, so that their abundance on the whole remained about the same. Their numbers varied a little, however, from time to time; some days there were more Juncos than on others. December 20, in particular, I noticed them in unusually large numbers. Whether this had any connection with the fact that we had a snowstorm the following day, is one of those things that unfortunately cannot be proved.

These great stretches of weeds were favorite resorts, too, of the Pine Finches (*Chrysomitris pinus*); frequently at my approach a flock of perhaps fifty would rise from the weeds where they had been completely hidden as they clung to them feasting on their multitude of seeds. Then for a long time they would circle around overhead, sometimes going as far as the further side of the cañon, again confining themselves to a much smaller orbit, their circles varying from a hundred yards to a quarter of a mile in diameter. Finally they would settle in some other weed patch a short distance off, or even in a pine on the edge of the hills, unless they decided that their suspicions of impending danger were well founded, and so disappeared behind some hill as they sought another feeding ground elsewhere. Sometimes the flock as it circled round and round would break up into two, one of which would, after a while, either depart to some more distant place or return and mingle with the other.

In crossing these level stretches, the Gallinas, in its hurrying course, has cut its channel down through the superficial deposits, of which they are formed, to a considerable depth, and along the banks thus made there grows a fringe of bushes in which I occasionally found a solitary Song Sparrow (*Melospiza fasciata montana*) that dodged back and forth with a restless shyness that made its life by no means an easy sacrifice. Here, too, one day (December 12) I came across an immature *Zonotrichia intermedia*, the only one of this species met with during my stay. Possibly it was merely a straggler there, for a bird naturally of

such gregarious habits would hardly be contented to lead a solitary life, were it possible for it to find others of its kind anywhere in the neighborhood.

Following up the cañon farther I was often tempted to turn aside and climb the steep pine-covered hills that border it. Here my first greetings were frequently the harsh screams of a small party of Long-crested Jays (*Cyanocitta stelleri macrolopha*) that were lurking warily among the pines. If I had come very quietly I sometimes found them feeding on the ground, but, ever on the alert, at the slightest alarm they would take to the shelter of the thick upper branches of the pines, where at their leisure they could silently dodge from one tree to another and disappear over the hills, easily distancing pursuit, for, in the thin atmosphere of that altitude, chasing birds up hills which offer a footing of loose stones, is no easy matter. If, however, they have not been frightened, they will stay about in the pines, giving one glimpses of their brilliant plumage as they try to satisfy their curiosity about the invader of their domain, while they fill him with amazement at the noisiness and variety of their harsh and penetrating notes. They are more often to be found on the top of the ridges than at the bottom of the ravines, and seem to prefer places where the scattered pines grow most thickly, and also trees that are not very high and whose branches are dense. Occasionally they take to the piñons at the head of a ravine, and I have even found them in a clump of scrub oaks high up on the hills.

Like others of their family, when the flock is moving from place to place they never fly all at once, but go quietly one at a time at short intervals, as if they did not like to attract too much attention to their movements. In crossing a ravine, or in any prolonged flight, they are apt to set their wings, and sail like a Canada Jay.

Their commonest cry is a *whee-eeesh*, long drawn out, rather wheezy, and with a penetrating character suggestive of the Cat-bird's cry. Another note, not heard as often, is one repeated several times, that sounds like a weak, harsh imitation of the *wake-up* of *Colaptes auratus*.

They have one noticeable habit, especially when wounded, to alighting on a lower branch of a pine close to the trunk, and then hopping up from branch to branch, with short pauses, until

lost to sight in the top of the tree. Like all Jays they are of by no means confiding nature, and though not extremely shy, are very wary. When they see you coming they will peer at you suspiciously through the branches, and then very likely conceal themselves, or prudently take flight.

Walking on across the hills, I did not often go far without coming upon a troop of Nuthatches roving about among the pines. There would be from half a dozen to a dozen or more Pygmy Nuthatches (*Sitta pygmæa*) in the party, and usually one or two of their Slender-billed cousins (*Sitta carolinensis aculeata*), frequently several Mountain Chickadees (*Parus montanus*), and occasionally a Creeper or two (*Certhia familiaris*). Two or three times I found a Gairdner's Woodpecker (*Picus pubescens gairdneri*) that had joined the company. The Pygmy Nuthatches, though the smallest, not only excelled in numbers, but were by far the most self-asserting and noisy. They were very active, moving about rapidly among the branches of the pines in their search for food. Their motions had much more of the Chickadee character and less of the Creeper than I have seen in the other American Nuthatches. They frequented chiefly the smaller branches, flying from branch to branch, perching like any other bird, swinging and bending about to reach their food like a Chickadee, and not often running along the trunks and branches *à la Certhia*. Occasionally one would stop and hammer on a branch like a Woodpecker, making a noise that seemed out of proportion to so small a bird. Indeed it could be heard at quite a little distance, and might almost be mistaken for the tapping of one of the smaller Woodpeckers.

They uttered their notes almost unceasingly, and the whereabouts of a flock could be easily discovered some distance off. None of their notes have the harsh *hank*-like character of the other Nuthatches. The one most constantly to be heard was a *chip* that had a very Sparrow-like sound. This was usually uttered several times in quick succession. Once one indulged in an attempt at song. The individual notes were much like the ordinary *chip*, but the general effect was a not unpleasing warble. He uttered mere snatches of his song, however, as if he were aware that it was out of season, and as if some passing thought of spring time had merely recalled it to his mind.

They are excitable little birds, and showed much concern when I had shot one of their company, scolding me vigorously

for my evil doing. Possibly sympathy for their companion was not the only cause of their excitement, for an unsuccessful shot aroused a great deal of noise among them for a few moments.

In their habits and notes the Slender-billed Nuthatches seemed to differ in no way from *S. carolinensis*, except that their cry was more plaintive and querulous, and lacked the resonant twang of the eastern bird.

The Mountain Chickadees behaved much like *P. atricapillus*, but their motions were quicker, and they seemed more restless, seldom staying long in one spot; and, perhaps for this reason, they did not appear to be as tame. Their notes are quite similar, but by no means identical. They have a *phé-be* much like that of the Blackcap, but feebler, harsher, and without its melodious qualities. They utter a *deé-deé* that is weaker and less resonant than the corresponding notes of *P. atricapillus*, and a *chick-a-cheé-chee* much like the other's *chick-a-deé-deé*, but like their other notes differing by being rather feebler and harsher.

The Gairdner's Woodpeckers were not abundant. Besides those met with in company with the Nuthatches and Chickadees on the hills, I saw only two others. These were among the low willows bordering the river below the mouth of the cañon. However, they were commoner than Harris's Woodpecker (*Picus villosus harrisi*), of which I saw not more than two or three altogether. They were on the highest parts of the hills, and were solitary birds. The only other Woodpecker met with was *Colaptes mexicanus*, which, though more numerous than Harris's, was far from abundant. I saw perhaps half a dozen during my three week's stay, all of them on the hills.

The diet of most of these birds included but a small proportion of insects. An examination of the stomach of every individual shot showed that both species of Nuthatches fed chiefly on vegetable substances, probably the seeds of the pines. They ate sparingly of insects, but the frequent presence of gravel in their stomachs showed that their habitual food was vegetable. In *Parus montanus* every stomach examined contained seeds or other vegetable substances, and in nearly every case some gravel. In two out of five there were some insects in addition to the other food. Even the Creepers ate more largely of seeds than of insects, and a Harris's Woodpecker had filled his stomach with fragments apparently either of piñon seeds or acorns, with the addition of but a few insects. Whether this diet was due to

preference or to a scarcity of suitable insects is a question for the entomologists.

On the top of one of the smaller hills one day (December 20) I came upon a small flock of Crossbills. They were scattered about among the upper branches of the pines, where they were busily feeding among a flock of Nuthatches and Chickadees. I secured one bright male, but the others took fright and were off, and I did not see them again. This one proves on comparison to be *Loxia curvirostris bendirei*, and doubtless his companions were of the same race.

I was following up one day the side of one of the ravines that run from the main cañon back among the hills, when, as I came to a point where the increasing steepness of its sides showed that I had nearly reached its head, I had my first sight of that strange and interesting bird, Townsend's Solitaire (*Myiadestes townsendi*). He was sitting motionless on one of the lower branches of a pine close to the trunk, and was singing. As he sat there he had somewhat the air of a Hermit Thrush. I could not long resist the desire for a closer acquaintance, and when I shot him he flew, wounded, and sailed with outstretched wings for some distance along the hillside. On the wing he bore such a striking resemblance to a Mockingbird, that my companion was completely deceived, and exclaimed in surprise, "You've shot a Mockingbird."

Their song I heard several times. It is not loud and striking, but is clear, sweetly modulated, and full of expression, and is long sustained. In its character it reminded me of the Bluebird's (*Sialia sialis*) warble, while occasional notes were suggestive of the Thrushes' songs. It sounds as if it came from a distance even when the singer is quite near. Almost all that I saw or heard were high up on the steep sides of the ravines where they were narrow and deep. The steep slopes were covered with loose stones and gravel, with occasional ledges of rock, and bore scattered pines and patches of scrub oak, and near the top, piñons and occasional cedars.

Higher up on the top of the hills are the favorite haunts of the Spurred Towhees (*Pipilo maculatus megalonyx*), a species which occurs in but small numbers. Those I found were in large clumps of almost impenetrable scrub oaks, where they kept on or near the ground and were consequently not easy to obtain.

(To be continued.)